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wireless RERC

Rehabilitation Engineering Research Center on Mobile Wireless Technologies for Persons with Disabilities

VIA ECFS

January 23, 2006

Marlene H. Dortch, Secretary
Office of the Secretary
Federal Communications Commission
445 12th Street, S.W.
TW-A325
Washington D.C. 20554

Re: *Review of the Emergency Alert System, EB Docket No. 04-296*

Dear Ms. Dortch:

Enclosed for filing in the above referenced proceeding pursuant to the Commission's November 10th, 2005 First Report and Order and Further Notice of Proposed Rulemaking, are comments of the Rehabilitation Engineering Research Center on Mobile Wireless Technologies for Persons with Disabilities (Wireless RERC).

Should you have any questions concerning this filing, please do not hesitate to call me.

Respectfully submitted,

Helena Mitchell
Director
Rehabilitation Engineering Research Center on Mobile Wireless Technologies for Persons with Disabilities (Wireless RERC)

Enclosure

Before the
Federal Communications Commission
Washington D.C. 20554

In the Matter of Further Notice of Proposed Rulemaking Review of the Emergency Alert System	)	EB Docket No. 04-296

Comments of the
REHABILITATION ENGINEERING RESEARCH CENTER on Mobile Wireless Technologies For Persons With Disabilities (WIRELESS RERC)

The Rehabilitation Engineering Research Center on Mobile Wireless Technologies for Persons with Disabilities (Wireless RERC), hereby submits comments in response to the Commission's First Report and Order and Further Notice of Proposed Rulemaking[1] (FNPRM) regarding review of the Emergency Alert System. The Wireless RERC[2] is a research center focusing on promoting universal access to mobile wireless technologies and exploring their innovative application in addressing the needs of people with disabilities. The Principal Investigator and Director of the Wireless RERC was the former chief of EBS and the EAS modernization efforts to ensure more efficient services and technologies were available to all citizens in times of emergency.

[1] *In the Matter of Review of the Emergency Alert System* EB Docket No. 04-296 (Released November 10, 2005).

[2] The Rehabilitation Engineering Research Center on Mobile Wireless Technologies for Persons with Disabilities (Wireless RERC) is supported by the National Institute on Disability and Rehabilitation Research of the U.S. Department of Education, grant # H133E010804. The opinions expressed in this filing are those of the grantee and do not necessarily reflect those of the U.S. Department of Education.

INTRODUCTION

The Wireless RERC commends the FCC for its important conclusions in the First Report and Order (EAS First R&O). Digital communications technologies play an increasingly critical role in the development of modern emergency communications systems. Many Federal agencies are reexamining emergency preparedness and communication procedures. This past 2005 hurricane season demonstrated how unreliable existing systems were in responding to the various emergencies. The EAS First R&O and Further Notice of Proposed Rulemaking (FNPRM) outline important steps toward ensuring accessible emergency warning and alert systems. The EAS First R&O make important improvements to the current system by requiring greater participation of digital technologies[3] such as digital television (DTV), Digital Audio Broadcasting (DAB), digital cable, Direct Broadcast Satellite (DBS) and Satellite Digital Audio Radio Service (SDARS) and requiring DTV broadcasters to transmit EAS messages on all program streams.[4] Of great significance is also the document's recognition that during emergencies people with disabilities must have accessible emergency communications as noted by: "we amend our EAS rules to ensure that persons with disabilities have equal access to public warnings."[5]

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[3] The Wireless RERC filed comments in the August 2004 Notice of Proposed Rulemaking which included discussion on the benefits of extending EAS rules to other digital communications technologies, in particular wireless devices such as cell phones which had the capability of reaching the widest possible target audience by increasing the diffusion of these devices to all users, especially those with disabilities.

[4] EAS 1st R&O and FNPRM at 23 where they reference the Wireless RERC comment "RERC Wireless supports requiring DTV broadcasters to transmit EAS messages on all program streams, contending that EAS messages are too important to risk missing because a person is tuned to the wrong channel."

[5] EAS 1st R&O and FNPRM at ¶ 60.

FURTHER NOTICE OF PROPOSED RULEMAKING DISCUSSION

Common Protocols[6]

The Wireless RERC supports the adoption of the Common Alerting Protocol (CAP) as the common messaging protocol for a future digitally-based alert system. CAP provides a technical solution for simultaneously transmitting emergency alerts through different communications networks. CAP has been adopted as a standard by the Organization for the Advancement of Structured Information Standards (OASIS). With CAP, the reach of EAS alerts can be expanded beyond broadcast media to alternative public alert mechanisms which is often better suited for people with disabilities. If CAP is adopted, the Wireless RERC believes it must be capable of simultaneously distributing emergency alerts to digital communications devices in particular wireless media such as mobile telephones and personal digital assistants (PDAs) often used by people with visual and audible disabilities.

Issues Specific to Particular Technologies[7]

Expansion of EAS to other digital broadcasting technologies, especially wireless products is important to meeting the needs of persons with disabilities. The FCC should consider requiring transmission of the EAS message text on the RBDS signal so that a person with a hearing impairment could see the message on a screen. During the FCC Emergency Broadcast System field tests conducted between 1991 and 1994, the results showed that a public warning system was capable of reaching people involved in a variety of different activities ranging from listening to car

[6] EAS 1st R&O and FNPRM at EAS NPRM at ¶ 67.
[7] EAS 1st R&O and FNPRM at EAS NPRM at ¶ 68.

radios, home television and radio stations received over cable, stereo systems, computers and compact disc players. The prototype warning systems were able to reach everyone, regardless of their communications device or whether that device was turned on or off. These earlier tests prove that if public alerting could be done a decade ago, changes in technology make alerts more readily possible and are even more critical today as Americans increasingly utilize their computers, personal digital assistants, cable, and car radios to receive information. We remind the FCC that the Consumer Electronics Association Public Alert Receiver and the NOAA Weather Radio have automatic turn on and off features. We would strongly support any FCC efforts to require this feature be added to new devices in the event of a serious emergency transmission. As noted earlier, the cost to the manufacturer for the chip was negligible.

The Wireless RERC urges that expansion of EAS to other types of wireless devices which are essential to providing emergency information to persons with disabilities. In particular, the Wireless RERC is interested in reaching out to the more than 169 million subscribers to wireless services in the United States.[8] The deaf community has become significant adopters of 2-way text pagers such as the Blackberry. Blind consumers can now purchase cell phones that read SMS messages to them. Increased usage of these devices is also noted among the general public and therefore the need to develop a way to quickly send EAS messages to these sorts of devices should be encouraged, particularly because in some cases

[8] *CTIA Semi-Annual Wireless Industry Survey*, June 2004.

these newer technologies are even more critical information tools for the hearing and visually impaired.

Broadcasting or multicasting of text messages to wireless devices, reverse 911 calls, or other systems could be used to notify users of wireless devices, hopefully through an opt-in system where a user could specify their location via the FIPS SAME code. This would not only increase access to emergency information to persons with disabilities but to all consumers using wireless devices. Expanding EAS to include cellular wireless networks would dramatically increase the effectiveness of EAS as a public alert and warning system. We believe the Commission would be able to establish rules and regulations to effectively balance the public safety and consumer interests at stake.

The Wireless RERC encourages careful planning to ensure that this vital functionality does not interfere with emergency uses of the limited spectrum available for wireless communications. Some cellular telephone companies have been somewhat reluctant to provide text messaging service of emergency alerts because of the lack of guaranteed delivery, and possible resultant liability concerns. Assigning additional spectrum to the emergency alerts could allow for some type of acknowledgement system, but it would be slower and consume much more bandwidth. The current system does not guarantee it will reach every American at all times, and neither should this new system be expected to. But by adding a broadcast/multicast type message alert system to the cell phone and 2 way pager markets would reach many more Americans than today with a small sacrifice of spectrum. If guaranteed delivery is deemed important, additional spectrum from

the DTV transition could be allocated to this need, but attention needs to be paid so that gains will not come at the expense of emergency first responders. Of additional concern is that the cost of emerging new technologies for emergency response communications for persons with disabilities, such as video American Sign Language broadcast of emergency alerts or links from first responders back to sign language interpreters in a centralized location" not be sufficient as to prevent implementation.

We support the expansion of EAS to include alerts via wireless data networks. While cellular network coverage is increasing dramatically, many locations may be more appropriately served by alternative wireless networks (such as Wi-Max, Wi-Fi networks, etc.) including underground locations such as subway systems and the interiors of many buildings. We encourage the Commission to establish mechanisms to enable users with wireless laptops to be alerted of emergency information transmitted through EAS, with transmission being provided by pertinent Internet service provider. Users could register for the service by providing their location (FIPS SAME code), and relevant alerts could be directed via the Internet to the user. Public safety agency employees would be allowed to connect to the network on their laptops and handheld computers for public safety uses.

Coordination with State and Local Governments [9]

The Wireless RERC agrees that the public interest is served if state governors are given the ability to utilize EAS facilities in dissemination of life-

[9] EAS 1st R&O and FNPRM at EAS NPRM at ¶ 73.

saving information.[10] In today's environment, distinctive codes are needed to make alerts more efficient and timely. If such a requirement was adopted then an additional originator code for state governors in section 11.31(d) of the rules should be added. As the FNPRM points out there is a vital connection between state and local warnings and Federal efforts to mitigate disasters.[11] in today's environment of manmade and natural disasters. Once again the events of the 2005 hurricane season indicate a need for more proactive notification and information streams of intelligence. Further, we would add that if state governors can utilize EAS facilities they should equally be required to participate in EAS planning at the state and local level as part of an overall public emergency notification system. As we stated with other parties in the 2004 EAS NPRM, voluntary participation in EAS alerts impairs the credibility of the entire EAS. [12]

EAS officials recognized the need for creating sound emergency communications state and local emergency communications plans. [13] State Emergency Communications Committees (SECCs) and Local Emergency Communications Committees (LECCs) are responsible for creating and implementing the plans. The chairs for those committees have verified that having proper plans ensured emergency personnel were better equipped during an emergency in how best to ensure safety of life and property.[14] By ensuring that plans included knowledge on how best to assist individuals with disabilities during

[10] EAS 1st R&O and FNPRM at EAS NPRM at ¶ 73
[11] EAS 1st R&O and FNPRM at EAS NPRM at ¶ 73.
[12] EAS NPRM at ¶ 24.
[13] *In the Matter of Review of the Emergency Alert System* EB Docket No. 04-296 (Released August 12, 2004). See comments of the Wireless RERC filed October 29, 2004.
[14] See FCC website, Enforcement Bureau, EAS Rules and Regulations, and SECC and LECC 1990's EBS chair meetings.

emergency evacuations an understanding of the accessibility concerns of people with disabilities would contribute to reduced lose of life.[15]

The Commission should adopt rules that require filing of state and/or local EAS plans and establish guidelines for the structure of plans.[16] SECCs and LECCs have proven that they can develop workable plans that serve states and communities during the more than 500-1000 incidents a year when the system has been activated. SECCs and LECCs are the appropriate structure for generating the EAS plans and it has been noted that the best SECCs and LECCs had the more organized, detailed and current plans[17]. The chairs verified that having proper plans ensured emergency personnel were better equipped to follow the official steps during an emergency, including knowledge of what agencies and personnel to contact, detailed activation and operation plans and how best to ensure safety of life and property.

Mandatory plans, along with periodic training, would help ensure that officials are better prepared during emergencies. We urge that these plans include knowledge on how best to assist individuals with disabilities during emergency evacuations whether in the workplace, institutions, housing developments or other locations. There should further be mandatory education of public safety, SECCs, LECCs, and emergency personnel to ensure there is an understanding of the accessibility concerns of people with disabilities. Periodic updates at least every

[15] See Wireless RERC comments at page 6.
[16] EAS NPRM at ¶ 25.
[17] During the late 1980's and early 1990's the FCC brought together State and Local chairs to discuss ways to improve emergency alerts and emergency preparedness. This comment is documented as part of those proceedings.

other year should be required, as officers change, stations are bought and sold, technologies are converged, and emerging technologies are adopted.

Accessibility to Persons with Disabilities[18]

The Wireless RERC recognizes the efforts of the FCC to ensure public warnings and alerts are provided to people with disabilities. However, the FCC's commitment to serving the needs of persons with disabilities through EAS needs to be strongly enforced through the issuance of increased base forfeiture fines on entities that do not adhere to the EAS rules and regulations. The Wireless RERC hopes that any changes to EAS will only increase the ability of persons with disabilities to receive emergency information in a timely manner. Although newer technologies are evolving we support the continued need for enforcement of existing mandates to provide information on televisions in both audio and video form.

The Wireless RERC urges that expansion of EAS to other types of devices is essential to provide emergency information to persons with disabilities. Unfortunately, the Commission's previous action mandating a digital standard [19] has not yet increased public alert mechanisms to their full potential.

Many of our comments noted under issues specific to particular technologies are worthy of reiterating again. The deaf community has become significant

[18] EAS 1st R&O and FNPRM at EAS NPRM at ¶ 74.
[19] *First Report and Order*, 10 FCC Rcd.

adopters of 2-way text pagers such as the Blackberry. Blind consumers can now purchase cell phones that read SMS messages to them. Increased usage of these devices is also noted among the general public and therefore the Commission needs to develop a way to quickly send EAS messages to these sorts of devices, which in some cases are even more critical information tools for the hearing and visually impaired.

Broadcasting or multicasting of text messages to wireless devices, reverse 911 calls, or other systems could be used to notify users of wireless devices, hopefully through an opt-in system where a user could specify their location via the FIPS SAME code. This would not only increase access to emergency information to persons with disabilities but to all consumers using wireless devices. Expanding EAS to include cellular wireless networks would dramatically increase the effectiveness of EAS as a public alert and warning system. We believe the Commission would be able to establish rules and regulations to effectively balance the public safety and consumer interests at stake.

We support the expansion of EAS to include alerts via wireless data networks. We encourage the Commission to establish mechanisms to enable users with wireless laptops to be alerted of emergency information transmitted through EAS, as noted above. Users could register for the service by providing their location (FIPS SAME code), and relevant alerts could be directed via the Internet to the user. Public safety agency employees would be allowed to connect to the network on their laptops and handheld computers for public safety uses.

The Wireless RERC believes that wireless devices such as cellphones, and other digital communications devices hold the potential to increase the ability of the EAS to reach the widest possible target audience. We suggest that it would be prudent to craft policy approaches that increase the diffusion of these devices to all users, especially people with disabilities. As the Commission considers expanding EAS to other technologies in an increasingly wireless world, it needs to ensure that people with hearing and sight disabilities can have access to emergency information via these devices.

While a range of possibilities exist to increase the potential access to digital and mobile wireless devices, the Wireless RERC has identified three key approaches -- policy/regulatory interventions, market mechanisms, and outreach/awareness approaches to achieving this objective. (1) We support the use of policy and regulatory interventions to encourage the development of new devices and reinforce the importance of technologies being flexible and useable by all people. For instance, expanded applicability of Section 508 would support the development and procurement of accessible information technology in all public entities, including state, county and local governments and schools. (2) In parallel, markets can be encouraged to deliver additional innovative devices. Accessible wireless telecommunications technologies have long been thought of as a very specific product designed for a very small fraction of the population – namely, those persons who have disabilities. Millions of U.S. residents who had previously attributed their difficulty or inability to perform certain tasks to minor physical deficiencies may have some degree of disability under definitions supported by the Census

Bureau. Further, the aging of the American population will drive the increase in the total number of people in the United States with disabilities. Not only are there more potential disabled consumers than previously thought, but manufacturers must also realize that accessible technologies can also benefit the non-disabled public at large. (3) Lastly, because of the inefficient dissemination of information regarding available accessible wireless telecommunications technologies, products and methodologies continue to be a barrier to the effective delivery, usage and understanding of such aides. Outreach and awareness are vital to successful utilization. Increased efforts at education and dissemination to unknowledgeable, potential beneficiaries of wireless telecommunications technologies, products and methodologies could increase the reach of the EAS.

OTHER ISSUES

Training

If mandatory state and local plans are required then periodic training must also be required to help ensure that officials are better prepared during emergencies. The Wireless RERC recommends that there should be mandatory education and training of public safety, SECCs, LECCs, and emergency personnel on best practices for assisting individuals with varied disabilities during emergency evacuations whether in the workplace, institutions, housing developments or other locations. In addition, emergency personnel need knowledge and understanding of the effective and varied communications systems that can reach and improve the exit time of deaf, hard of hearing, blind and low vision individuals during emergencies. Periodic updates at least every other year should be required to ensure

that new developments are reflected in any training or emergency communications operational plans.

Some initial research indicates that the general public is not always sure about what an EAS alert means.[20] Persons with disabilities face additional barriers during times of emergency such as evacuation routes that can accommodate motorized wheelchairs and visual and audible alerts that clearly describe the action needed to get to safety. Education bulletins and regional workshops that bring together at risk persons would help to reduce confusion, increase confidence in emergency personnel and allow both communities to discuss realistic rapid response measures to help save lives.

Capabilities and resources of organizations can be leveraged to facilitate research, business and academic collaboration on important training and education modules. The Commission should continue to sponsor public hearings and summits on emergency preparedness issues and people with disabilities. For example, a hearing to solicit input from users and manufacturers on optimal device configurations for turn on and off features that would not impose undue burdens on the manufacturers or increase new device costs for the consumer. Marketing the capabilities and benefits of accessible wireless technologies has been problematic for both producers and users alike, yet critical for diffusion of these technologies.

We encourage the DHS's Interagency Coordinating Council on Emergency Preparedness and Individuals with Disabilities, including the FCC, to explore and create ways in which Federal investment in product research and development, in

[20] Informal sampling of graduate students in several communications courses.

conjunction with the development of voluntary standards can help address problems of public safety technology incompatibility. A policy and regulatory agenda placing an emphasis on development of new applications of telecommunications technologies to improve EAS offers the potential for increased protection and safety for people with disabilities.

Enforcement

The base amount of forfeiture should be increased. The funds could be used to offset the small operator costs to install EAS equipment. We do not believe that any operator should be exempt from EAS. Exemption would put the operator's specific audience at risk if an EAS alert was issued and the member of the audience had no other mechanism for receiving notification.

In closing, the Wireless RERC commends the FCC for undertaking this important review of EAS, in particular public warning and the benefits of technologies to better assist persons with disabilities during emergencies.

Respectfully submitted,

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Dated this 23th day of January 2006